

13. Ismail, A. L., Burt, B. A., and Brunelle, J. A.: Prevalence of dental caries and periodontal disease in Mexican American children aged 5–17 years: results from the southwestern HHANES, 1982–83. *Am J Public Health* 77: 967–970 (1987).
14. Ragno, J., and Castaldi, C. R.: Dental health in a group of migrant children in Connecticut. *J Conn State Dent Assoc* 56: 15–21 (1982).
15. Call, R. L., Entwisle, B., and Swanson, T.: Dental caries in permanent teeth in children of migrant farm workers. *Am J Public Health* 77: 1002–1003 (1987).
16. Johnston, H. L.: *Healthy for the nation's harvesters*. National Migrant Workers Council, Inc., Farmington Hills, MN, 1985.
17. *Oral health surveys – basic methods*. Ed. 3. World Health Organization, Geneva, 1987.
18. *Procedures and training manual for North Carolina Oral Health Survey 1986–87*. Dental Health Section, Division of Health Services, North Carolina Department of Human Services, Raleigh, NC, 1987.
19. Brunelle, J.: Prevalence of dental sealants in U.S. school-children. *J Dent Res* 68 (special issue): 183, March 1989.

Prenatal Care Comparisons Among Privately Insured, Uninsured, and Medicaid-Enrolled Women

CHARLES N. OBERG, MD
BETTY LIA-HOAGBERG, PhD
ELLEN HODKINSON, BSN
CATHERINE SKOVHOLT, MS
RENEE VANMAN, BS

All the authors are with the School of Public Health, University of Minnesota. Dr. Oberg is an Assistant Professor of Pediatrics, Dr. Lia-Hoagberg is an Assistant Professor of Maternal and Child Health, Ms. Hodgkinson and Ms. Vanman are Research Assistants, and Ms. Skovholt is a Research Fellow, all in Maternal and Child Health.

This research was funded by Hennepin Faculty Associates, Minneapolis, MN.

Tearsheet requests to Dr. Lia-Hoagberg, School of Public Health, Box 197, Mayo Memorial Building, 420 Delaware Street, SE, Minneapolis, MN 55455.

Synopsis

Women without health insurance and those covered by Medicaid have been shown to obtain prenatal care later in pregnancy and make fewer visits for care than do women with private insurance. Factors that keep women from obtaining care include inadequate maternity care resources, difficulty in securing financial coverage, and the psychosocial issues of pregnancy.

This study identified and compared prenatal care use patterns, insurance coverage changes, and psychosocial factors among 149 women in Minneapolis, MN, with private health insurance, Medicaid, and no health insurance. Little information has been available on the insurance status of women at the start of pregnancy and the paths subsequently taken to obtain financial coverage for prenatal care.

A sample of 149 women who recently delivered children was obtained from 6 hospitals (1 public and 5 private) in Minneapolis, MN, between February and June 1988. The sample included 49 uninsured women, 50 privately insured women, and 50 receiving Medicaid benefits. The sampling process began when a woman without insurance coverage at the time of delivery was identified and agreed to participate. A woman with private insurance coverage and one enrolled in Medicaid were then randomly chosen from the same hospital within 1 week. All the women in the study were chosen by this procedure.

Prenatal care use was classified using the Kotelchuck Adequacy of Prenatal Care Utilization Index (1). Data analysis was conducted using descriptive statistics, chi-square tests, and ANOVA. Distinct sociodemographic differences were identified among the three insurance groups for age, education, marital status, and income. Findings indicated that 76 percent of the women

enrolled in Medicaid had incomes below the Federal poverty level, compared with 31 percent of the uninsured and only 4 percent of the women with private insurance.

Results

At the end of pregnancy, women with private insurance (82 percent of the 50) were more likely ($P < .01$) to obtain adequate prenatal care than women with no insurance (59 percent of 49) or Medicaid benefits (50 percent of 50). The Medicaid group began receiving care at 20 weeks, later than either the uninsured (15 weeks) or the privately insured (12 weeks). Nineteen percent of the total sample had a change in insurance coverage between the beginning of pregnancy and the time of delivery. Most changes were among uninsured women who obtained Medicaid or private insurance coverage during their pregnancies (table 1).

Table 1. Changes in insurance coverage of 149 women during pregnancy

Start of pregnancy	Number of women	End of pregnancy	
		Number	Percent
Private.....	55	{ Private.....	48 87
		{ Medicaid.....	2 4
		{ Uninsured....	5 9
Medicaid.....	33	{ Private.....	0 0
		{ Medicaid.....	31 94
		{ Uninsured....	2 6
Uninsured....	61	{ Private.....	2 3
		{ Medicaid.....	17 28
		{ Uninsured....	42 69
Totals.....	149	149	100

Thirty-one percent of the 61 women who began their pregnancies without insurance were able to obtain coverage for their care subsequently. Approximately half of the uninsured women did not attempt to obtain Medicaid coverage because they were unfamiliar with Medicaid (15.6 percent), did not understand the application process (18.8 percent), were uncertain about eligibility (75 percent), or felt uncomfortable about accepting Medicaid (44 percent). Several women gave more than one reason.

Table 1 shows that some health insurance changes also occurred among the privately insured and uninsured women. Seven women with private insurance at the beginning of pregnancy lost their coverage, and two of those women enrolled in Medicaid to cover prenatal care. At the time of delivery, 10 of the uninsured women either were still waiting to hear about their eligibility or were in the process of applying for Medicaid.

Psychosocial factors with regard to the pregnancy varied significantly among the women with different types of health insurance coverage (table 2). Medicaid-enrolled women reported more personal conflicts or concerns than the uninsured and privately insured women.

An important finding was the degree of ambivalence expressed about having a baby. A total of 74 percent of the Medicaid-enrolled women admitted greater ambivalence compared with 47 percent of the uninsured and 26 percent of the privately insured women ($P<.0001$). Almost twice as many Medicaid-enrolled women (86 percent) as privately insured women (44 percent) reported that the pregnancy was unplanned. In the uninsured group, unplanned pregnancy occurred in about three-fourths of the cases ($P<.0001$). Three times as many Medicaid-enrolled women (72 percent), as compared with privately insured women (24 percent), reported an unhappy or emotionally neutral response to

learning about their pregnancy. Slightly more than half of the uninsured women expressed such feelings ($P<.0001$). More than six times as many Medicaid-enrolled women and twice as many uninsured women considered an abortion at some time during their pregnancies compared with privately insured women ($P<.001$).

Women covered by Medicaid and those without health insurance were more likely to fear telling others about their pregnancy. Feelings of depression or unhappiness that interfered with obtaining prenatal care were also significantly more prevalent in the Medicaid-enrolled group ($P<.001$).

Problems in securing the necessities of food and shelter occurred almost exclusively among Medicaid-enrolled women. Not always having enough food to eat was an issue reported by 24 percent of the Medicaid women, compared with only 4 percent of the uninsured group and 2 percent of the privately insured group ($P<.001$). Also, six Medicaid-enrolled women (12 percent) reported that they did not always have a place to live during their pregnancies.

Discussion

The results affirm that there are significant variations in prenatal care patterns and experiences among women with different insurance coverage. While the importance of financial barriers to care are highlighted, the study shows that financial resources alone do not ensure adequate levels of prenatal care. Within the culture of the poor, the daily stress of personal problems demands priority over preventive health behaviors. This study confirms earlier research that documented the relationship of psychosocial factors to prenatal care patterns among low-income women (2).

Pregnancy is not a static situation but rather a time when a substantial number of women experience fluidity in their financial coverage for health care. Little information has been available previously about insurance changes during pregnancy. Difficulties with health insurance and psychosocial factors clearly militate against efforts to promote early prenatal care and must be remedied.

To be effective, prenatal care must be available, and women helped to take advantage of it. Availability of care includes knowledge of existing resources, easy access to care without stigma or financial hardship, and an adequate number of obstetric providers for Medicaid-enrolled and uninsured women. Such initiatives as vigorous, systematic outreach are necessary to inform women about sources of low-cost prenatal care and Medicaid eligibility before pregnancy occurs. Community outreach should include the use of public health

Table 2. Psychosocial factors regarding the pregnancy by type of health insurance coverage

Factor	Private (N=50)		Uninsured (N=49)		Medicaid (N=50)		Total (N=149)		Chi-square statistics
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	
Ambivalence about having baby	13	26	23	47	37	74	73	49	¹ 23.17
Unplanned pregnancy	22	44	36	73	43	86	101	68	¹ 21.27
Neutral or unhappy when learned of pregnancy	12	24	25	51	36	72	73	49	¹ 23.17
Considered abortion	3	6	8	16	19	38	30	20	² 16.58
Afraid to tell others about pregnancy	8	16	17	35	20	40	45	30	³ 7.53
Felt lack of personal support during pregnancy	1	2	3	6	11	22	15	10	⁴ 12.30
Personal or family problems took priority over prenatal care ..	2	4	7	14	11	22	20	13	³ 7.02
Depressed or unhappy during pregnancy	8	16	18	37	26	52	52	35	² 14.37
Not always enough food to eat	1	2	2	4	12	24	15	10	² 16.25
Did not always have a place to live during pregnancy.....	0	0	0	0	6	12	6	4	(⁵)

¹ P<.0001. ² P<.001. ³ P<.05. ⁴ P<.01. ⁵ cell sizes too small for statistic test.

nurses, home visitors, and incentives for women to obtain care. Community based efforts are needed so that every woman knows where to get prenatal care as readily as she knows where to purchase groceries. Prenatal care would also be encouraged by the provision of comprehensive, risk-appropriate care for all women, regardless of insurance status. A recent report emphasized the importance of comprehensive care that includes psychosocial assessment and interventions in addition to medical care (3).

Unfortunately, in the current health care system in the United States, access to prenatal care and, consequently, its prevalence, varies significantly according to insurance coverage and income. It is evident that the

health care system will have to be altered if maternity care is to be provided to all women, regardless of their ability to pay.

References

1. Kotelchuck, M.: Overview of Adequacy of Prenatal Care Utilization Index. Paper presented at the meeting of the American Public Health Association, New Orleans, October 23, 1987.
2. Lia-Hoagberg, B., et al.: Barriers and motivators to prenatal care among low-income women. *Soc Sci Med* 30: 487-495 (1990).
3. Report of the Public Health Service Expert Panel on the Content of Prenatal Care: Caring for our future: the content of prenatal care. Public Health Service, Washington, DC, 1989.

Renal Cancer and Cigarette Smoking in a 26-Year Followup of U.S. Veterans

JOSEPH K. McLAUGHLIN, PhD
ZDENEK HRUBEC, ScD
ELLEN F. HEINEMAN, PhD
WILLIAM J. BLOT, PhD
JOSEPH F. FRAUMENI, Jr., MD

The authors are with the Epidemiology and Biostatistics Program, Division of Cancer Etiology, National Cancer Institute. Dr. McLaughlin is an Epidemiologist, Dr. Hrubec is a Cancer Expert, and Dr. Heineman is a Fellow in the Program. Dr. Blot is Chief of the Program's Biostatistics Branch, and Dr. Fraumeni is the Program's Director.

Tearsheet requests to Joseph K. McLaughlin, PhD, Epidemiologist, National Cancer Institute, EPN-415, Bethesda, MD 20892.

Synopsis

The cigarette smoking habits of a cohort of almost 250,000 U.S. veterans were analyzed for their relation-

ship to renal cancer. Information on smoking habits was collected in 1954 and in 1957 for nonrespondents to the first effort. Of the veterans, 84 percent returned their questionnaires. The cohort was followed for mortality until 1980, or 26 years.

The followup of these military veterans, mostly of World War I, revealed 719 deaths from renal cancer, making this the largest study of renal cancer and cigarette smoking to date. Current smokers had a 47 percent increase in risk relative to nonsmokers. The relative risk for renal cancer increased significantly with the number of cigarettes smoked per day, from 1.31 for 1-9, 1.37 for 10-20, 1.60 for 21-39, and 2.06 for 40 or more. This analysis was unable to separate the risks of cigarette smoking for tumors of the renal parenchyma from those for tumors of the renal pelvis and ureter. However, the results suggest that almost one-fifth of all renal cancer deaths are attributable to cigarette smoking.